

Claims

1. A piston machine, containing a crankcase with a cylinder fixed on it, in which a piston with a piston rod are located, a cover arranged on the cylinder, suction and pumping valves, two parallel crankshafts located symmetrically relative to the axis of the cylinder and connected with one another with a possibility of rotation in opposite directions, a traverse connected with the piston rod of the piston, two connecting rods each connected with one end hingedly to a corresponding crankshaft and with another end hingedly to a corresponding end of the traverse, and the piston rod of the piston is connected with the traverse hingedly, characterized in that the piston is configured with an inner hollow, and the piston rod is configured with a throughgoing longitudinal axial passage connected with the inner hollow of the piston, the suction pipe is connected in the crankcase coaxially to the piston rod which extends into the suction pipe with the possibility of a reciprocating movement, the traverse is connected with the piston rod above an entry to the suction pipe, the suction valves are arranged on a front wall of the piston, and pumping valves are arranged on the cover.

2. Machine according to claim 1, characterized in that the throughgoing longitudinal axial passage of the piston is configured with a diffuser from a side of connection with the inner hollow of the piston and with a confusor from a side of entry to the suction pipe.
3. Machine according to claim 1 or 2, characterized in that the pumping valves are arranged on the cover with a possibility of location flush with a surface of the cover from the side of the piston in a closed position.
4. Machine according to claim 1 or 2 or 3, characterized in that the suction valves are arranged on the cover with the possibility of location flush with a surface of the cover from the side of the piston in a closed position.

Amended Claims

(Received by International Bureau on May 24, 2005 (24.05.05)); originally claimed 2-5 are replaced with amended claims 2-5, claim 1 remains without changes (one page).

1. A piston machine, containing a crankcase with a cylinder fixed on it, in which a piston with a piston rod are located, a cover arranged on the cylinder, suction and pumping valves, two parallel crankshafts located symmetrically relative to the axis of the cylinder and connected with one another with a possibility of rotation in opposite directions, a traverse connected with the piston rod of the piston, two connecting rods each connected with one end hingedly to a corresponding crankshaft and with another end hingedly to a corresponding end of the traverse, and the piston rod of the piston is connected with the traverse hingedly, characterized in that the piston is configured with an inner hollow, and the piston rod is configured with a throughgoing longitudinal axial passage connected with the inner hollow of the piston, the suction pipe is connected in the crankcase coaxially to the piston rod which extends into the suction pipe with the possibility of a reciprocating movement, the traverse is connected with the piston rod above an

entry to the suction pipe, the suction valves are arranged on a front wall of the piston, and pumping valves are arranged on the cover.

2. Machine according to claim 1, characterized in that the throughgoing longitudinal axial passage of the piston is configured with a diffuser from a side of connection with the inner hollow of the piston and with a confuser from a side of entry to the suction pipe.
3. Machine according to claim 1, characterized in that the pumping valves are arranged on the cover with a possibility of location flush with a surface of the cover from the side of the piston in a closed position.
4. Machine according to claim 2, characterized in that the suction valves are arranged on the cover with the possibility of location flush with a surface of the cover from the side of the piston in a

closed position.

5. Machine according to any of the claims 1, 2, 3, or 4, characterized in that the suction valves are located on the front wall of the piston are arranged on the front wall of the piston with the possibility of location flush with the surface of the front wall of the piston in a closed position.